



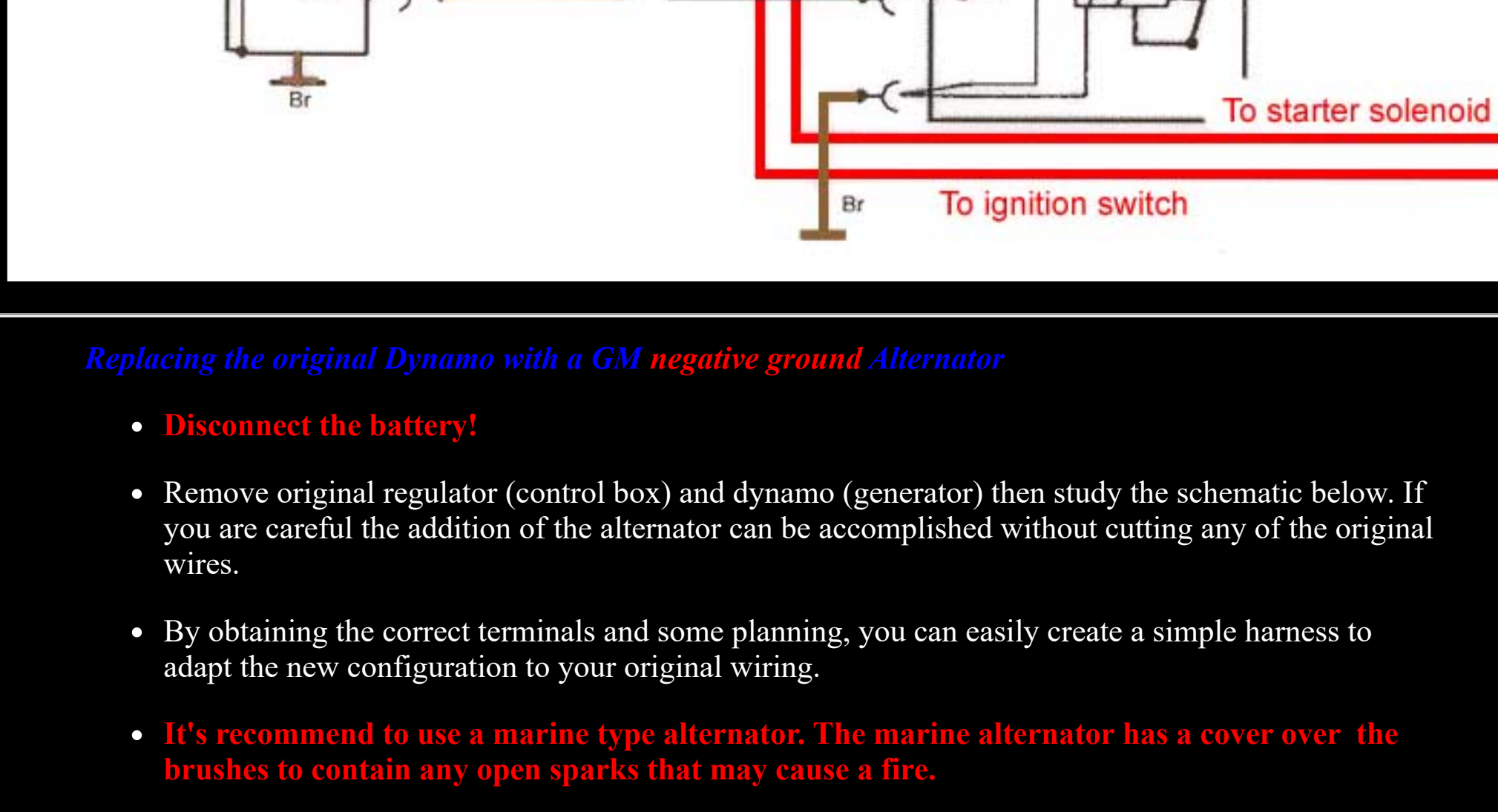
- [Replacing the Dynamo \(Generator\) with an alternator.](#)
- [Re-wiring the fuel gage for \(-\) ground](#)
- [Calibration of the fuel gage.](#)

What you will need:

- Late model GM single wire alternator.
- Wire crimper
- Wire cutters
- 14AWG wire in **RED** and **BLACK**
- Spade Terminals
 - 1/8" male
 - 1/8" Female
 - 3/8" Male
 - 3/8" Female
- Assorted Shrink tubing
- 30A circuit breaker

Replacing the generator with an alternator

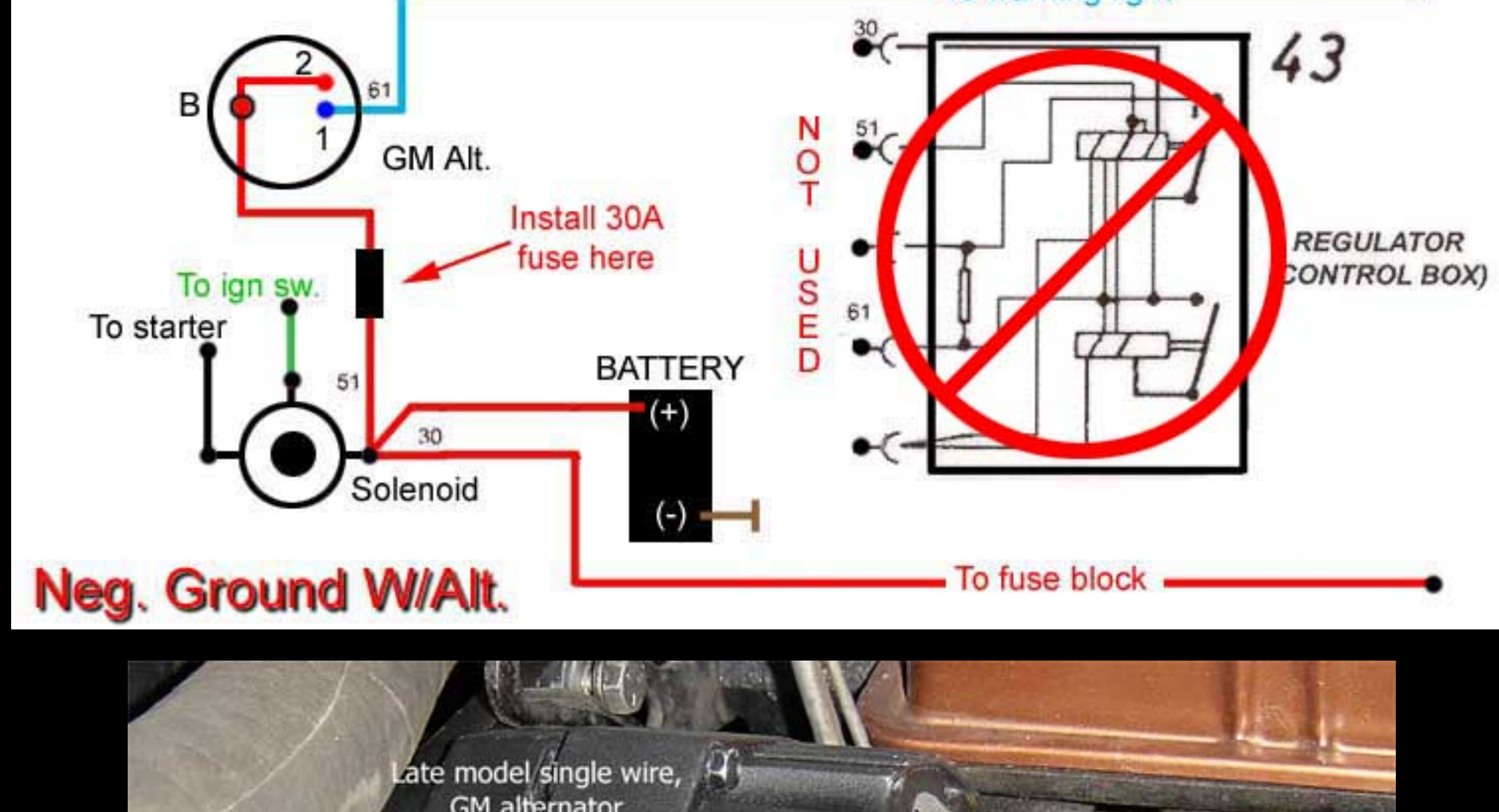
Existing Dynamo (Generator) with positive ground wiring



Replacing the original Dynamo with a GM negative ground Alternator

- **Disconnect the battery!**
- Remove original regulator (control box) and dynamo (generator) then study the schematic below. If you are careful the addition of the alternator can be accomplished without cutting any of the original wires.
- By obtaining the correct terminals and some planning, you can easily create a simple harness to adapt the new configuration to your original wiring.
- **It's recommend to use a marine type alternator. The marine alternator has a cover over the brushes to contain any open sparks that may cause a fire.**
- When installing the alternator, you will need to fabricate brackets to mount it to the engine.
- Keep in mind The top mount must allow adjustment of the alternator for proper belt tension (about 3/4" deflection).
- Be sure the alternator fan clears the upper radiator hose. You can twist it to gain more clearance if needed.
- **Don't forget to switch the 2 wires on the coil.**
Replace the coil if it is not relatively new.
- Some cars may require you to switch the wires on the bilge blower, heater blower (sometimes) and bilge pump (almost always) motors. Check for correct air flow direction to be certain.
- Your windshield wipers also may not park all the way down, this can be corrected by reversing the brushes in the wiper motor. This is a difficult operation best not attempted unless you have experience.

- Continue on to the [Re-wiring and calibration of the fuel gage.](#)



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Re-wiring and calibration of the fuel gage

WARNING!

The following procedure is not for the faint of heart or those not comfortable with soldering or delicate procedures.

Only continue at your own risk!

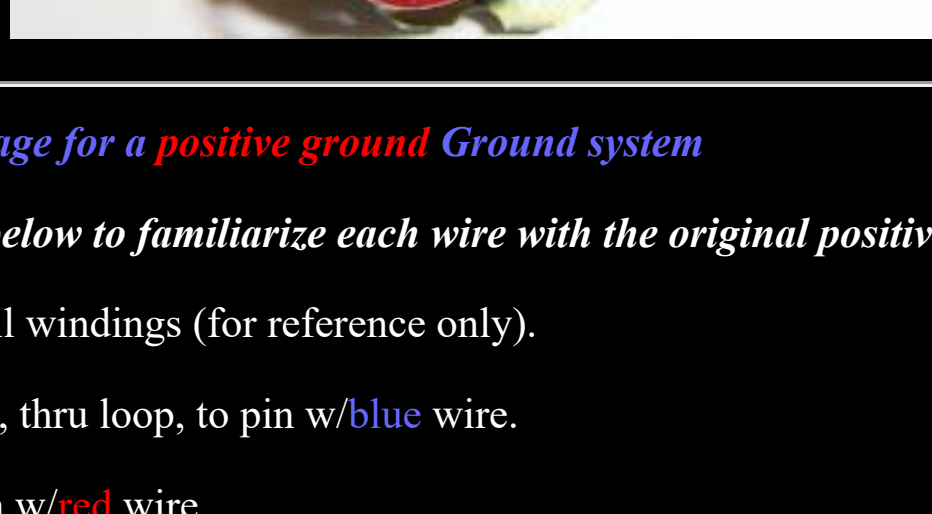
WARNING!

1 - Disassembly of the Fuel gage & re-wiring for a negative ground system

- **Disconnect the battery!**
- First, remove the gage cluster from the dash.
- Remove the gage from the cluster by removing the 3 small screws and the 3 wires on the back.
- Disassemble the gage by **CAREFULLY** removing the 2 small screws holding the face to the gage. (see picture below)
- **REMEMINDER:** The needle is very delicate and it can be damaged very easily.



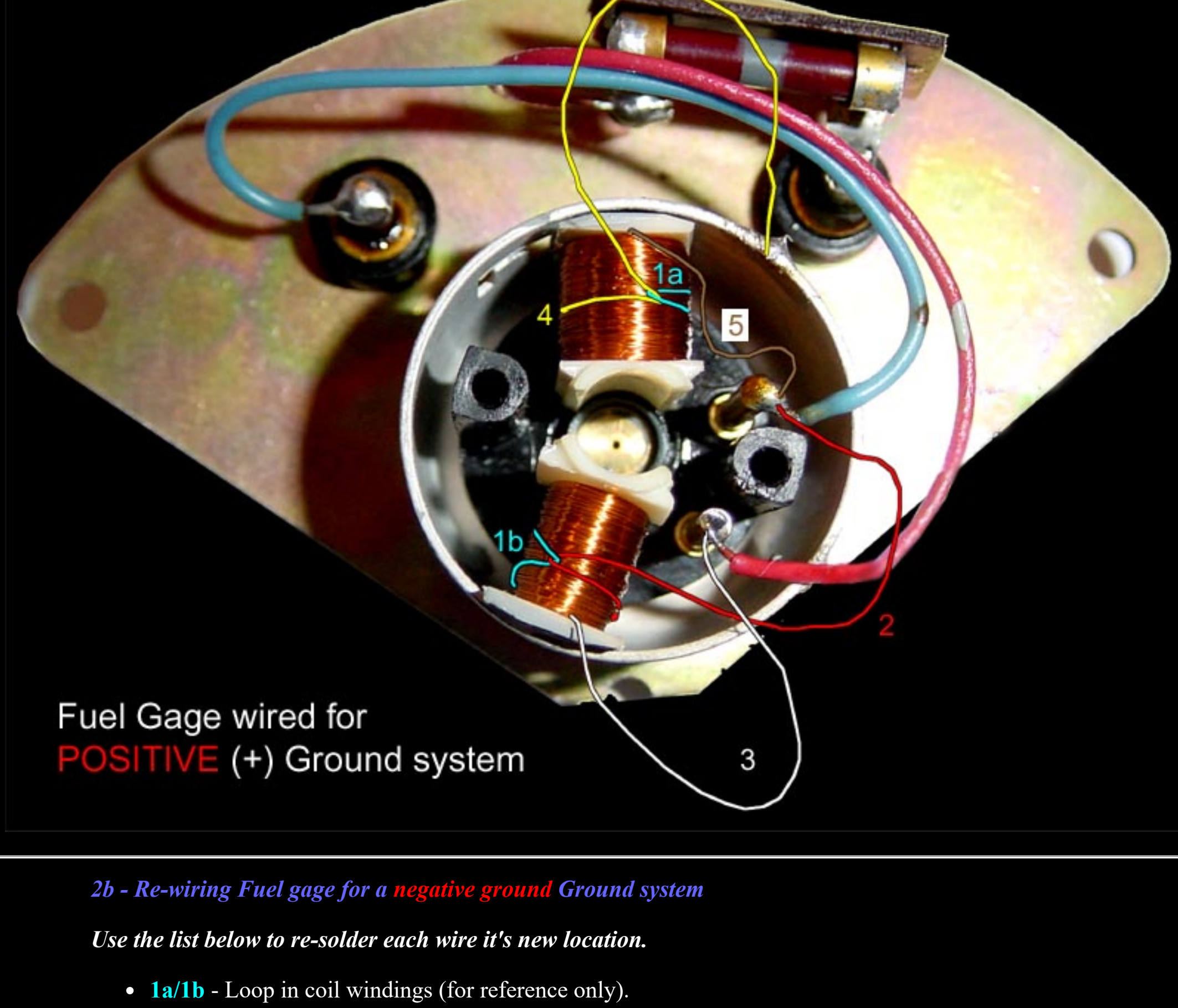
- Now turn the gage over & remove the 2 brass screws from the back holding the needle assembly & set it aside with the screws you removed.
- Now your gage should look like the picture below.



2a - Stock wiring Fuel gage for a positive ground Ground system

Use the picture and list below to familiarize each wire with the original positive (+) ground locations.

- **1a/1b** - Loop in coil windings (for reference only).
- **2** - From small coil, thru loop, to pin w/blue wire.
- **3** - From coil to pin w/red wire.
- **4** - From large coil, thru loop, to case.
- **5** - from large coil to pin w/blue wire.



2b - Re-wiring Fuel gage for a negative ground Ground system

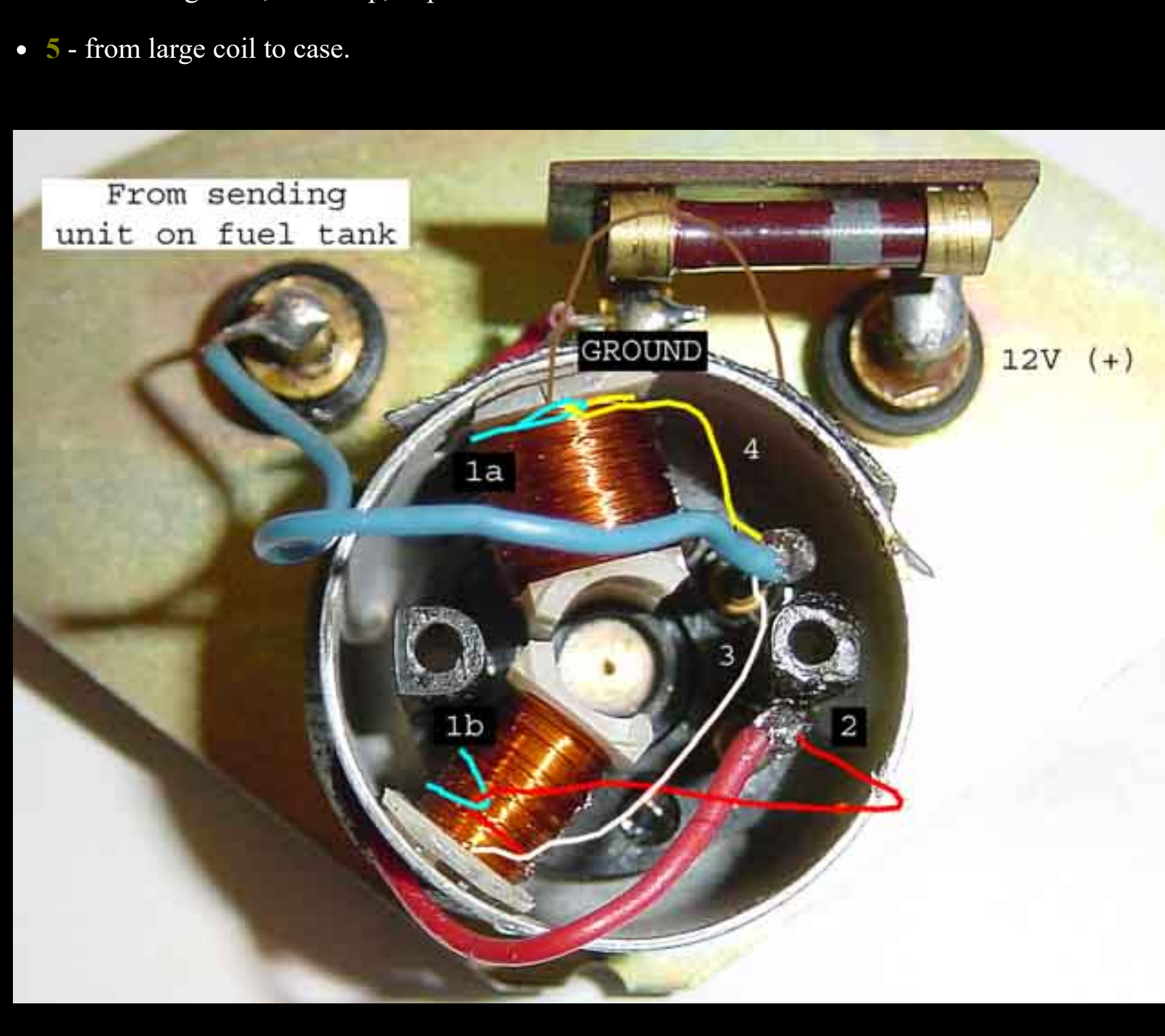
Use the list below to re-solder each wire it's new location.

- **1a/1b** - Loop in coil windings (for reference only).
- **2** - Move from pin w/blue wire to pin w/red wire.
- **3** - Move from pin w/red wire to pin w/blue wire.
- **4** - Move from case to pin w/blue wire.
- **5** - Move from pin w/blue wire to case.

2c - Inspecting the re-wired Fuel gage for a negative ground Ground system

Use the picture and list below to inspect each wire's new location.

- **1a/1b** - Loop in coil windings (for reference only).
- **2** - From small coil, thru loop, to pin w/red wire.
- **3** - From coil to pin w/blue wire.
- **4** - From large coil, thru loop, to pin w/blue wire.
- **5** - from large coil to case.



Click on the picture for a larger 1040 x 780 pixel picture (168k)

3 - Re-assembly of the Fuel gage.

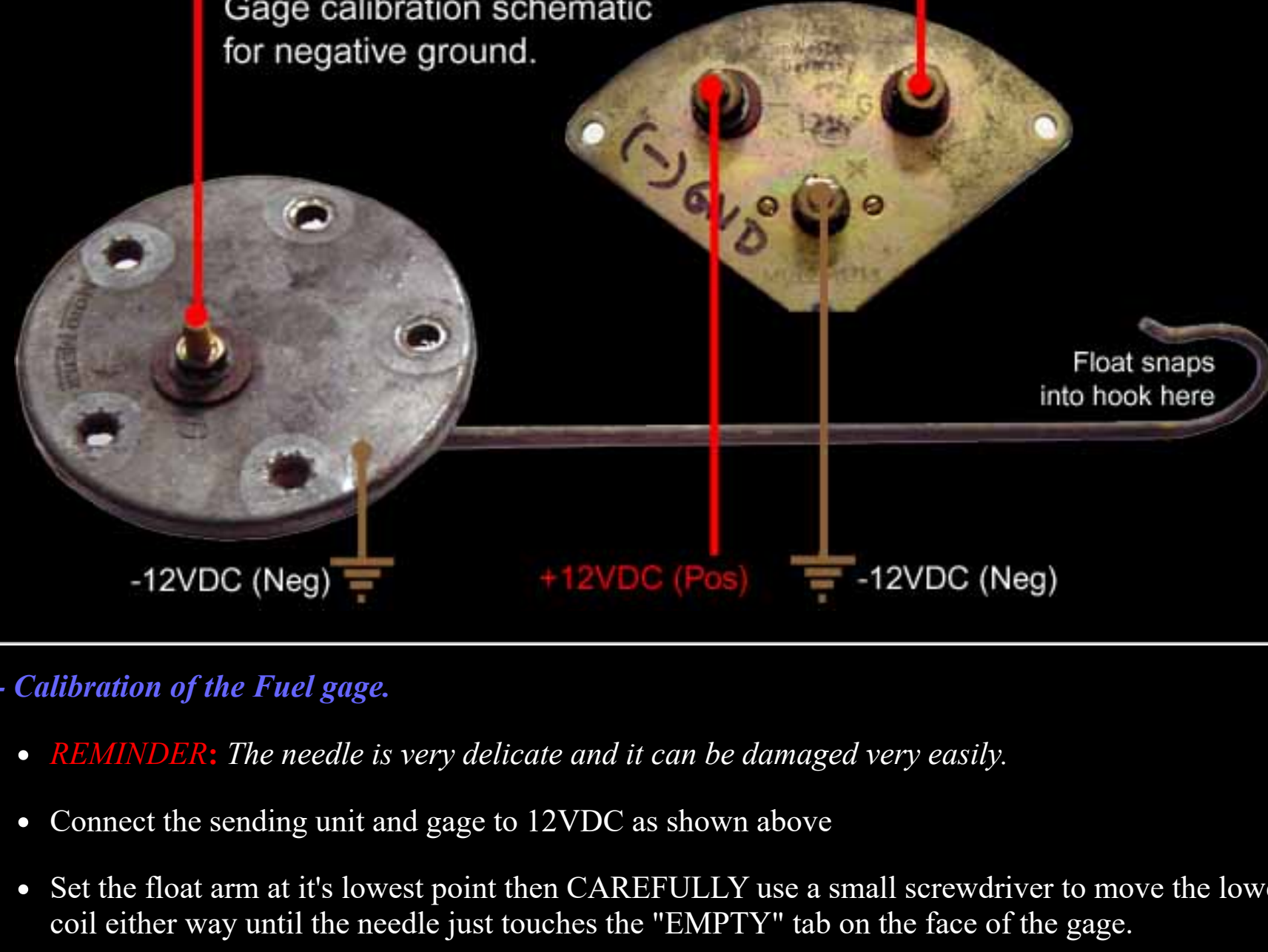
- **REMEMINDER:** The needle is very delicate and it can be damaged very easily.
- **CAREFULLY** set the needle assembly into the coil set.
- **Be sure the pin at the bottom is in the hole at the bottom of the gage assembly.**
- **CAREFULLY** turn the assembly over holding the needle in place and insert the 2 long brass screw removed earlier from the back into the brass bracket that holds the needle assembly.
- **CAREFULLY** install the gage face and install the 2 small screws to hold it in place.
- Mark the gage as "NEG (-) GND"

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(Thanks go to John Friese for the following calibration procedure)

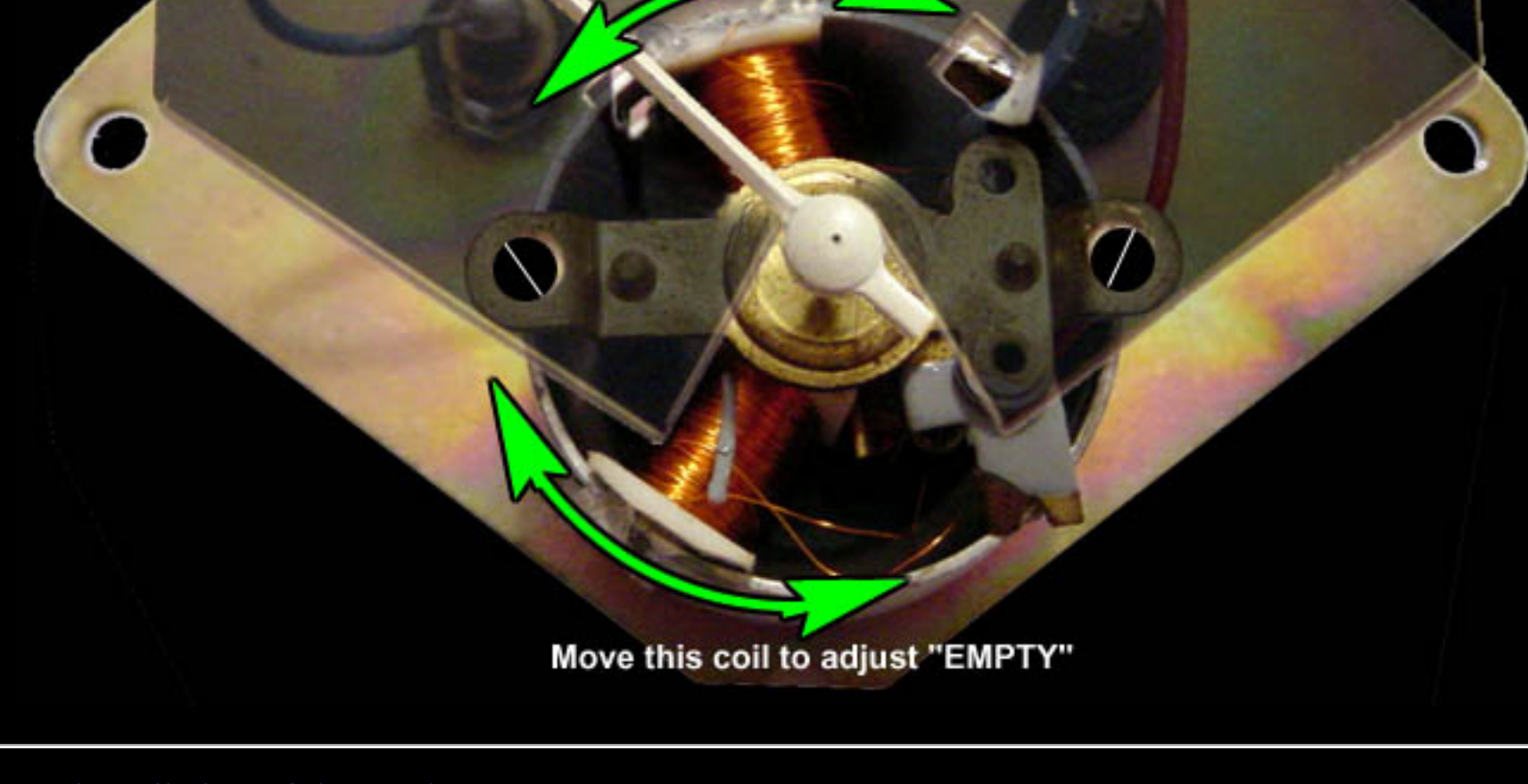
4 - Operation of the Fuel gage.

- **REMEMINDER:** The needle is very delicate and it can be damaged very easily.
- Remove the sending unit from the fuel tank.
- Connect the gage and sending unit to 12VDC as shown below.
- The gage should move smoothly from "0" (Empty) to "4/4" (Full) coinciding with the movement of the sending unit float arm.
- Properly calibrated, the needle will just touch the tab on the gage face at "0" (Empty) and likewise at the "4/4" (Full) tab.
- If the gage is determined to require calibration, continue to the next step.



5 - Calibration of the Fuel gage.

- **REMEMINDER:** The needle is very delicate and it can be damaged very easily.
- Connect the sending unit and gage to 12VDC as shown above
- Set the float arm at it's lowest point then CAREFULLY use a small screw driver to move the lower coil either way until the needle just touches the "EMPTY" tab on the face of the gage.
- Repeat with the upper coil to adjust for "FULL" after setting the arm at it's highest point.
- Once both are adjusted, apply a drop of Superglue or equivalent to each coil through the slots in the case to secure them in place.



6 - Re-installation of the Fuel gage.

- Reinstall the gage into the cluster.
- Attach 3 gage wires to their original positions (red to (-) / blue to "G" / brown to "GND") on the back of the gage.
- Reinstall the cluster into the dash.
- Reinstall the sending unit and connect 2 wires in their original locations (blue to center / brown to gnd) at the sending unit.
- Re-connect battery remembering to Reverse and label (+) & (-) cables battery cables.

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